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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,008	05/25/2006	Tomihisa Ohno	CONDA.00033	1688
22858	7590	11/12/2008		
CARSTENS & CAHOON, LLP			EXAMINER	
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			1796	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/596,008

**Applicant(s)**

OHNO ET AL.

**Examiner**

MICHAEL DOLLINGER

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/DE)  
Paper No(s)/Mail Date 05/25/2006 and 12/12/2007
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Objections***

1. Claim 5 is objected to because of the following informalities: "polyole" is a misspelling of "polyol". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed range of hydroxyl number does not have any units.

***Claim Rejections - 35 USC § 102***

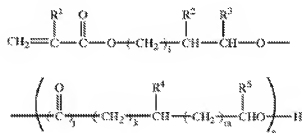
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayakawa et al (WO96/34064), all references are made to the disclosure of equivalent US 6,689,839 B1.

6. Hayakawa et al discloses a thermoset paint composition comprising (a) a fluorine containing copolymer of fluoro-olefin, hydroxyl group containing vinyl based monomer and other vinyl based monomer having a hydroxy group value between 60 and 150 mgKOH/g [column 2 lines 34-39], (b) a vinyl based (co)polymer comprising a monomer represented by the general formula 1:



wherein n = 0-10 and the (co)polymer has a hydroxy group value between 60 and 150 mgKOH/g [column 2 lines 40-46; 55-60], and (d) a blocked polyisocyanate compounds [column 2 lines 49-50]. The hydroxyl group containing vinyl based monomer of component (a) may be lactone modified 2-hydroxyalkyl (meth)acrylate, e.g. ε-caprolactone modified 2-hydroxyethyl (meth)acrylate [column 4 lines 3-10]. The other vinyl based monomer of component (a) may be 2-hydroxyethyl (meth)acrylate [column 4 line 40] and monomers with a cyclic backbone such as cycloalkyl ester of (meth)acrylic acid [column 4 line 34], styrene [column 4 line 41], cyclohexyl vinyl ether [column 4 line 44], and combinations of two or more [column 4 line 46]. The monomer of component (b) represented by formula 1 is also a lactone modified vinyl based monomer such as modified 2-hydroxyalkyl (meth)acrylate, e.g. ε-caprolactone modified 2-hydroxyethyl (meth)acrylate [column 5 lines 54-63]. Since n = 0-10 in formula 1, there are between 0 and 10 caprolactone repetitive units in the lactone modified hydroxyalkyl (meth)acrylate.

Other vinyl based monomers in component (b) include 2-hydroxyethyl (meth)acrylate [column 6 line 7] and monomer with a cyclic backbone including cycloalkyl ester of (meth)acrylic acid [column 6 line 1], styrene [column 6 line 7], and combinations of two or more [column 6 line 10-12]. Components (a) and (b) each read on both the claimed (meth)acrylic resin (A) of claim 1 and the lactone polyol (C) of claim 5.

7. Regarding claim 3, the disclosure of caprolactone modified 2-hydroxyethyl (meth)acrylate is considered the explicit disclosure of caprolactone modified 2-hydroethyl methacrylate and caprolactone modified 2-hydroxyethyl acrylate.

8. Regarding claim 4, example polymers AC-2 and AC-3 have cyclohexyl methacrylate in the monomer mixture in an amount of 10 weight percent and 5 weight percent, respectively [Table 2].

9. Regarding claim 6, all examples of lactone modified (meth)acrylic resins AC-1 through AC-5 have acid value below 30 mgKOH/g [Table 2].

10. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawada et al (US 2003/0171473 A1).

11. Sawada et al disclose a cationic electro-deposition coating composition comprising an amino containing acrylic resin (B) and a blocked polyisocyanate curing agent (C) [0019]. An example of the amino containing acrylic resin (B) is Preparation Example 8 which is formed from a monomer mixture including FA-1 which is a polycaprolactone-modified hydroxyethyl acrylate with about one caprolactone repetitive unit per monomer (calculated from molecular weight of 230) [Table 2; footnote 5], 2-

hydroxyethyl acrylate [Table 2] and 6.6 percent by weight of styrene (a cyclic backbone monomer) [Table 2]. Preparation Example 8 has a hydroxyl value of 144.5 mgKOH/g. The coatings are useful as anticorrosive primer on a steel plate [0072].

12. Claims 1-3, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibato et al (JP 9-169950 A), all references are made to equivalent US 6,025,433.

13. Shibato et al disclose a thermosetting paint composition comprising (A) a compound with has at least 2 isocyanate reactive groups and (B) a blocked isocyanate with at least 2 isocyanate groups [column 2 lines 17-22]. Component (A) is preferably an acrylic resin contain hydroxyl groups [column 3 lines 15-22] and contain monomers including 2-hydroxyethyl (meth)acrylate [column 3 lines 24-25], lactone modified vinyl monomers such as 1-10 mol of lactone such as caprolactone (1-10 repetitive units of caprolactone) added to 1 mol of hydroxyalkyl ester such as 2-hydroxyethyl (meth)acrylate [column 3 lines 55-61], and combinations thereof [column 3 lines 62-63]. The inventive example of component A-2 has a hydroxyl value of 140 mgKOH/g, an acid value of 12 mgKOH/g and uses PLAXEL FM-2 which has two repetitive units of caprolactone for each hydroxyethyl methacrylate [Table 2]. The coating compositions are useful as paints for metal, plastic or wooden surfaces [column 8 lines 52-57].

14. Regarding claim 3, the disclosure of caprolactone modified 2-hydroxyethyl (meth)acrylate is considered the explicit disclosure of caprolactone modified 2-hydroxyethyl methacrylate and caprolactone modified 2-hydroxyethyl acrylate.

15. Claims 1-3, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriya et al (JP 7-207223 A), all references are made to equivalent US 5,821,315.
16. Moriya et al disclose thermoset coating compositions comprising (A) a vinyl based copolymer with hydroxy group value between 60-200 mgKOH/g and (B) a blocked polyisocyanate compound [column 2 lines 24-32]. The component (A) includes a 2-hydroxyethyl (meth)acrylate [column 3 line 18] modified by caprolactone [column 3 line 20] in an amount of 1-5 mol of lactone to 1 mol of (meth)acrylate (1-5 repetitive caprolactone units) [column 3 lines 24-27]. Example A-3 discloses a vinyl copolymer (A) with monomers PURAKUSERU FM-2 (caprolactone modified 2-hydroxyethyl methacrylate) and 2-hydroxyethyl methacrylate, hydroxyl group value of 140 mgKOH/g and acid value of 30 mgKOH/g [Table 2].

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marutani (JP 06-220397).
19. Marutani discloses urethane coating composition comprising an acrylic resin having hydroxyl number of 140-280 and a isocyanate prepolymer [0006]. The acrylic resin is based on monomers such as 2-hydroxyethyl (meth)acrylate, 3-hydroxypropyl

(meth)acrylate, and others [0008] modified with 1-6 mol (1-6 repeating units) of  $\epsilon$ -caprolactone [0009]. The isocyanate prepolymer is preferably a diisocyanate like hexahydro diisocyanate, xylene diisocyanate and isophorone diisocyanate [0020].

20. Marutani does not specifically disclose the acrylic resin containing two different hydroxyl group containing (meth)acrylate monomers, but it does disclose a list of suitable hydroxy group containing (meth)acrylate monomers, discussed above. It is *prima facie* obvious to combine two composition each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA). Therefore, one skilled in the art would have found it obvious to use a mixture of the disclose acrylate monomers, since the reference itself recognizes them as functional equivalents in the art.

21. Marutani discloses a hydroxy value range of 140-280 which overlaps the claimed range of 125-145. In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior a *prima facie* case of obviousness exists *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

### ***International Search Report***

22. X-category reference JP 2002-317123 A was not used in a 35 USC 102 rejection because it does not address the hydroxy value of the acrylic resin.



***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on Monday - Thursday 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MICHAEL DOLLINGER  
Examiner  
Art Unit 1796

/mmd/

/Randy Gulakowski/

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Supervisory Patent Examiner, Art Unit 1796